

ABSTRACT OF THE INVENTION

Corrosion-inhibiting pigments based on cobalt are described that contain a trivalent or tetravalent cobalt/valence stabilizer complex. An inorganic or organic material is used to stabilize the trivalent or tetravalent cobalt ion to form a compound that is sparingly soluble in water. Specific stabilizers are chosen to control the release rate of trivalent or tetravalent cobalt during exposure to water and to tailor the compatibility of the powder when used as a pigment in a chosen binder system. Stabilizers may also modify the processing and handling characteristics of the formed powders. Cobalt/valence stabilizer combinations are chosen based on the well-founded principles of cobalt coordination chemistry. Many cobalt-valence stabilizer combinations are presented that can equal the performance of conventional hexavalent chromium systems.